



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Re the application of inventor(s):

**MILLS, Matthew**

Serial Number: 10/774,707

Examiner: ROANE, A

Filed: 02/09/2004

Art Unit: 3739

Confirmation No.: 9540

**For: THERMAL AID**

MAIL STOP AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.132**  
**TRAVERSING GROUNDS OF REJECTION**

Dear Sir:

I, Matthew Mills, do hereby declare as follows:

1. I am the inventor for the above-captioned patent application and its claims and am aware of all aspects of the creation and manufacture of the device as currently claimed.
2. My knowledge of the current invention as claimed includes the processing and degermination of grains, including corn, which are used in the present invention.
3. While there are possibly alternative steps in the degermination of corn, one sequence for degermination could include the following steps:
  - a. Initially, the corn kernels are removed or split from the cob;

- b. The kernels are collected and soaked in water for approximately twenty-four (24) hours;
  - c. The germ/embryo and the tip cap are then removed from each of the kernels;
  - d. The degermed kernels are then soaked in water for approximately twelve (12) hours to soften the exterior skin layer;
  - e. The exterior layer is then removed, leaving both the hard and soft endosperm of the corn for use in the present invention; and
  - f. The kernels are then dried in a kiln or otherwise in order to remove excess water, generally for approximately fifteen (15) minutes at 214°F to take the moisture content in the kernels to approximately 13% - 15%.
4. The resulting material arising from the de-germed corn with its exterior layer removed, provides a material that operates thermally much like a ceramic material. However, unlike ceramic material, my degermed corn is recyclable, all-natural, and does not require manufacturing that such ceramic material might require.
5. My degermed corn is significantly different from cleaned corn in that such cleaned corn does not have the germ removed nor does it have the bran (the pericarp or outer coat) removed.
6. Consequently, cleaned corn would not operate in the same manner as my degermed corn as the embryo, or germ, would still be present in the corn kernel. The presence of the germ allows the retention of inherent oils that promote fungi/mold or other growth and decay (or rotting) of the kernel.

7. Such decay or rotting of the corn kernel operates in contradiction to my invention, would prevent it from having a long-lasting useful life, and could detrimentally affect the important thermal properties which my claimed device provides.
8. As a result, cleaned, or cleansed, corn could not be used as a substitute for my degermed corn as set forth above.
9. Attached as Exhibit 1 is an explanation with a relevant diagram describing the grains which we use and the process they undergo in order to remove the germ and exterior bran coat. The information in Exhibit 1 is true and correct to the best of my knowledge.
10. I further declare that all statements made herein of my own knowledge are true and correct and that all statements made on information are believed to be true and correct; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under

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May-18-2006 11:25am From-Cislo &amp; Thomas

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T-275 P.012/027 F-834

## PATENT

Appl. No. 10/774,707

Amdt. dated May 18, 2006

Reply to Office action of Mar. 17, 2006

04-13161

Section 1001 of Title 18 of the United States Code (18 U.S.C. § 1001), and that such willful false statements may jeopardize the validity of the above-referenced application and any patent issuing thereon.

Respectfully submitted,



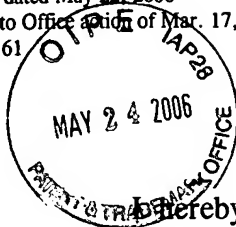
Matthew Mills  
Declarant

Date: May 18 2006

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PATENT  
Appl. No. 10/774,707  
Amdt. dated May 22, 2006  
Reply to Office action of Mar. 17, 2006  
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